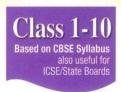


# Malayala Manorama

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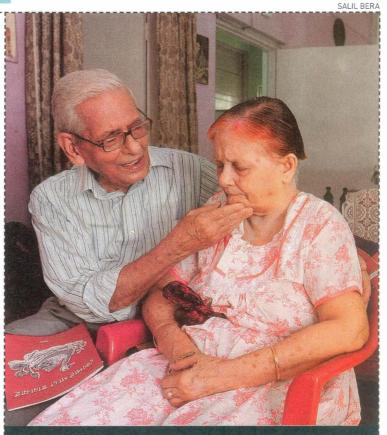
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Picture editor	Cherian Thomas
Picture research	Bimal Nath C.
Layout	Jayant Pithadia,
	B. Manojkumar,
	Sumesh C.N., Deni Lal

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FORGET ME NOT: Brig. Shiba Prasad Bhattacharya with his wife, Sukla, who was diagnosed with Alzheimer's disease in 1994

**PG 16** 

# **COVER STORY**

#### REMEMBER THIS

Have you stood in front of the ATM wondering what your PIN is? Forgot the name of your cousin's daughter? These minor slips of memory can mean much

#### Plus

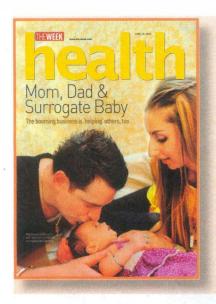
Inside the Brain Museum in Bangalore

#### Guest columns

Nilanjana Maulik says caregivers should understand dementia to treat patients with dignity

Dr Asok R. Kumar on how memories are formed and lost

# **LETTERS**



# Surrogacy is a boon

Being a mother is one of the best gifts that God has given me ('Give money, get baby', June 10). Giving birth to a baby is definitely blissful. That is a right no one can take away from a woman. But I feel sorry for women who are not so fortunate to experience it. Surrogacy is certainly a boon to all these women. It is good that Indians have started accepting this. The fact that celebrities like Aamir Khan went for it and are open about it is helping, too.

REKHAS. ANAND,

On email.

# **Express service**

The cover story 'Life line' (May 27) about the misery of our own people for no fault of theirs was a revelation. Keep up the good work.

ANAND KRISHNAN,

Chennai.

The Abohar-Jodhpur train is a boon for the cancer patients. I wish such trains run all over the country to meet the needs of those who suffer.

ARATHI RAGHUVEER, Mysore, Karnataka.

# Experience is the best teacher

The article 'Are doctors bad patients?' (May 6) was really interesting. It made me think about what will happen if the doctor becomes a patient. I have thought about it as a child, whenever I was taken to a doctor. Many of the medical staff do not understand the sufferings of the patient and behave as if they never become sick.

The article reminded me of a colleague in a government engineering college. He was tough, rude and strict towards students but was a good teacher. He was a 'terror' in the department as far as students were concerned. A

dramatic change in his attitude was noticed when he rejoined the college after his PhD in a renowned technical institution. He became soft and lenient and even advised other teachers to be polite towards students. This



**PATIENT ON THE PLATFORM:** Mandar Singh and his wife travel from Bathinda to Bikaner every week on Train 339 for her cancer treatment

# Wish I had a surrogate baby

I wish society was open to surrogacy two decades ago ['Give money, get baby', June 10]! I am now close to 50. I underwent an emergency, an inevitable hysterectomy 20 years ago while still trying to complete my higher studies. The break-up of a 13-year-old relationship compelled me to continue my higher studies. Arranged marriage was ruled out though I was blessed with good looks and good education. I feared social stigma. Who wants to be labelled infertile? I was depressed and suffered silently for 15 years.

Finally, meditation helped me out of depression. Work, too, always kept me busy and I earned some name, fame and money. Had surrogacy been in vogue then, I would have had the pleasure of being a wife and the bliss of being a mom. Now I am fostering four children via an NGO for the past 19 years and am committed to serving the needy and less fortunate mothers and children.

My deep gratitude to all those surrogate mothers who have given joy to those who cannot be mothers, and to all the men who accept women as they are.

AASTHA, On email.

happened because of his experience as a student for three years while doing his PhD. He understood the stress and mental agony of a student under the pressure of tyrannical teachers.

R. SAHADEVAN,

On email.

I was touched by the cover story, especially the article 'Never say die, until you are dead' on Dr B.N. Ravi. It is unbelievable that there are people with such strong

WILLING TO SUCCEED: Dr B.N. Ravi

willpower. He did not lose hope and tried until he succeeded. We get to learn from this that one should never stop trying and life's experiences are more precious than the theoretical knowledge one gets from books.

My experience with hypertension and vertigo problems has been really bad. Now, I have become more optimistic and strong. Health magazine is good company.

SHUBHANGI MHATRE, Thane, Maharashtra,

# Gods on earth

Dear Dr Jame Abraham, I have been wanting to write to you for years, ever since I have been following your articles in the Health supplement (Sthethoscope). Actually I do not know what I want to say—whether I appreciate your empathy or your writing style, or your whole



life-experience and the way you go about your work. I enjoy reading about medicine and the lives of doctors though I know I could never have made a doctor myself. I always wonder what it must be like to hold someone's life in your hands, and know that your hands are frail but still be thought of as God. Must be an onerous responsibility.

Your efforts, attitude and skill is acknowledged and recognised by many like me. If I ever need a doctor, he or she should be like you.

NEEHARIKA NAIDU, New Delhi.

# SIMPLE STEPS Be prepared

High blood pressure is a silent killer, a disease that causes harm slowly. It could lead to paralysis, brain haemorrhage and heart attack.

Yoga has special importance in controlling high blood pressure. Use postures like Sukhasana and Vajrasana for practising breathing exercises. Practise Shavasana in case of weariness.

Chandrabhedi pranayam is beneficial in reducing high blood pressure.

Body purification processes and Jalaneti are beneficial, too. Regular practice of yoga nidra is helpful in controlling the increased blood pressure levels. Regular practice of meditation reduces the risk of high blood pressure.

Nature cure for high blood pressure includes keeping wet bandage on stomach and forehead, enema, hot water bath and spine bath. Cold water spine bath is beneficial, too. Placing cold bandage on spine is also equally effective.

A patient of high blood pressure should begin his day with morning walk and try to lead a natural life.

#### Diet

Food has an important place in any illness. Food should not cause constipation; it should, in fact, relieve it.

Reduce salt intake. Eat seasonal fruits at least three to four times during the day.

Concentrate on food while eating and chew it properly.

The patients of high blood pressure should not eat hot, spicy, stale, heavy food and items made of gram flour, sugar, meat, and must avoid smoking and drinking alcohol.

Try to get rid of any negative thoughts at the time of eating food. Negative thinking has bad effect on digestion of the food. Drink one glass lukewarm lemon water with two spoons honey in the morning.

Eat seasonal fruits like papaya, guava or sprouts and fenugreek or have fruit juice for breakfast. Eat chapatti made of whole wheat flour, one or two boiled green vegetables, salad and curd. Take any seasonal fruit or fruit juice or lemon water mixed with honey in the evening.

Take one or two chapattis made with whole wheat flour or coarse meal and boiled vegetable along with salad at night.

#### Home remedies

Mix onion juice and pure honey in equal quantities and take two grams once daily to cure high blood pressure.

Onion juice reduces cholesterol levels in the blood and controls the stiffness of blood veins. Honey makes the heart strong and healthy. Use this remedy for five to seven days and note the difference. Continue it for a few days in case of benefit.

Take three grams of dry fenu-

Take three grams of dry fenugreek powder twice daily on empty stomach for 10-15 days

## **LETTERS**

with water to reduce high blood pressure. It is also beneficial in case of diabetes.

Chew one or two peeled garlic pods after meals with water. Alternatively, eat the garlic pods wrapped in dry dates (seedless). Store water in copper vessel at night and drink it in the morning.

Grind four basil leaves and two neem leaves with water and take on empty stomach for five to seven days to control high blood pressure.

Eat ripe papaya on empty stomach regularly in the morning and do not eat anything up to two hours after this.

Use onion and garlic in food to overcome heart disease.

Diluted curd is very beneficial in case of low and high blood pressure. Patients of low blood pressure should take two grains of asafoetida along with diluted curd.

#### Harmful food

Heavy food made with milk, butter, oily food, clarified butter, salt, brinjal, potato, half ripe banana, raw jackfruit, pulses, refined flour, sweets, jaggery, oil, dry mango powder, spices, polished rice, sugar, coffee and tea should be reduced or avoided. Sitting in the same position or standing for long, running up the stairs, eating in excess and frequently, are all harmful.

#### Suitable food

Sweet lime, apple, watermelon, lemon and papaya are suitable. Green vegetables, spinach, gourd, onion, tomato, carrot, salad,

carrot juice, are all beneficial. Do not drink water while eating food.

Mix the juice of half a emon in half a cup of water and drink twice or thrice.

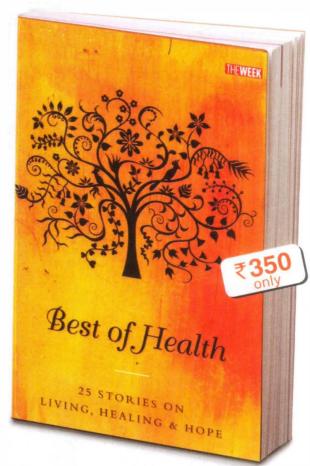
JAYANTHY SUBRAMANIAM,

Navi Mumbai.

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# QUICKSCAN

### **GOING STRONG**

Widely prescribed cholesterol lowering drugs called statins can significantly lower the risk of heart-related problems, such as heart attacks and strokes, in both men and women even without a history of vascular disease, British researchers report in the journal *The Lancet*.

The study was based on 27 randomised trials involving 1,75,000 people who were divided into five groups based on their five-year major vascular event risk. The researchers compared different dosages and the benefits of statin use and non use. Statins reduced the risk of serious vascular events by 21 per cent in all five risk groups, including those with the lowest risk for vascular disease.

"Statins may produce small increased risks of haemorrhagic strokes and in diagnoses of diabetes, but the definite benefits of statins greatly outweigh these potential hazards," the study concluded. Another study in the journal Neurology has found that stroke victims who took statins before and during hospitalisation were more likely to survive the stroke and go home.

#### DID YOU KNOW

Teens and young adults who spent a lot of time listening to loud music are also more likely to smoke marijuana, binge drink and have unprotected sex:



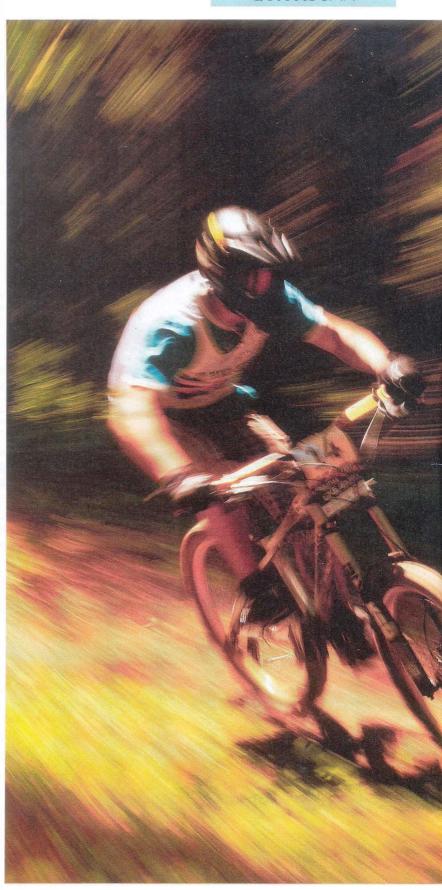
# QUICKSCAN

#### **BOON AND BANE**

People who regularly take calcium supplements to prevent bone loss and fractures may be increasing their risk of heart attacks, according to a German study in the journal Heart. For the study, the researchers followed 23,980 people, aged 35 to 64, without heart disease for 11 years. They were asked about their diet and vitamin intake. There were 354 heart attacks, 260 strokes and 267 deaths from cardiovascular causes among all participants. There was an 86 per cent increase in heart attacks among people who took calcium supplements compared to those who did not. However, calcium consumed in the diet did not pose the same risk. In fact, those who had a moderate amount of calcium in their diet (820 milligrams daily) had a lower risk of heart attack than those who consumed less. While calcium in food is absorbed in low doses over a period of time, calcium supplements can spike the levels of calcium in the blood which might damage the walls of the blood vessels and lead to heart attacks.

#### **DID YOU KNOW**

Working night shifts increases the risk of breast cancer by 40 per cent in women: Occupational and Environmental Medicine





#### **TEST IN TIME**

A simple drawing test may help predict who is at a greater risk of death after a stroke, according to Swedish researchers in the journal BMJ Open.

The researchers asked 919 white men, aged around 70 and who had never had stroke, to complete the Trail Making Test (TMT), a simple cognitive test that involves drawing lines between numbers and letters in ascending order as quickly as possible. During the 14-year follow-up period, 155 of them had a stroke, and 22 of the 84 men who died within two and a half years, died within a month of the stroke. Men who scored at the bottom 30 per cent on their TMT were three times more likely to die after their stroke compared to those who scored in the top 30 per cent. The researchers theorise that the TMT picks up on hidden cognitive impairments that have not yet manifested. The simple test may help identify individuals at a greater risk of death from stroke and take preventive measures.

# FOR BETTER CONTROL

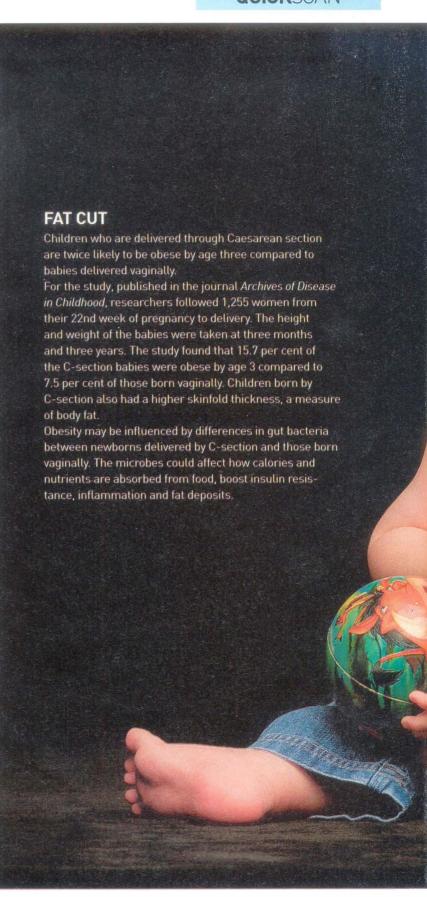
Long-acting reversible contraceptives such as the intrauterine device IIUD) and implants are more effective in preventing pregnancy than short-acting birth control methods such as the pill, patch and vaginal rings, says a study published in *The New England Journal of Medicine*. For the study, 7,486 women, aged 14 to 45, were allowed to choose any contraception for free. Any unintended pregnancies were tracked for up to three years.

Participants using oral contraceptive pills, a transdermal patch or a vaginal ring were 20 times more likely to get pregnant than those who opted for long-term contraception methods including IUDs, hormone shots and skin implants.

Women under age 21 who used short-term options had almost twice as many unintended pregnancies as older women who used those methods.

Short-term methods fail for lack of strict compliance. Women should opt for long-lasting methods to prevent unwanted pregnancies and abortions.







# UNNECESSARY INTERVENTION

A US study in the Journal of the American College of Cardiology has found that one in seven nonemergency angioplasty procedures performed does not meet the criteria for the procedure. Researchers focused on angioplasties that were performed in 58 hospitals in New York State in 2009 and 2010. Among the patients who had an angioplasty, only 36 per cent met the criteria for being appropriate candidates; 14 per cent were not appropriate candidates for the procedure and 49.6 per cent were uncertain candidates, meaning there wasn't enough evidence to say whether medications or a stent would work hetter

"Patients need to be aware that they are sometimes being referred for something that they don't need, and they can get by with a less invasive option, which is taking medicines," says the study. Inserting a stent does not always improve the quality of life of patients or help them live longer.

### **DID YOU KNOW**

Looking away as you get a shot can reduce the intensity of pain: Pain

# QUICKSCAN



### **DIRT AT WORK**

If you think bathrooms in your office carry the most germs, you are mistaken. Break room sink faucet handles and microwave door handles top the list of dirtiest places in the office.

For the study, researchers at Kimberly-Clark Professional collected nearly 5,000 swabs from office buildings that included law firms, insurance companies, health care companies, call centres and manufacturing facilities, and housing about 3,000 employees.

The swabs were analysed for levels of adenosine triphosphate (ATP), a molecule found in all animal, vegetable, bacteria, yeast and mould cells. The possibility of bacteria and viruses flourishing on a particular surface increases with the level of ATP.

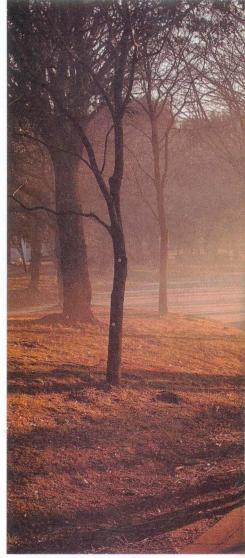
The six dirtiest office surfaces with an ATP count of 300 or more were break room sink faucet handles, microwave door handles, keyboards, refrigerator door handles, water fountain buttons and vending machine buttons. "This study demonstrates that contamination can be spread throughout the workplace when office workers heat up lunch, make coffee or simply type on their keyboards."



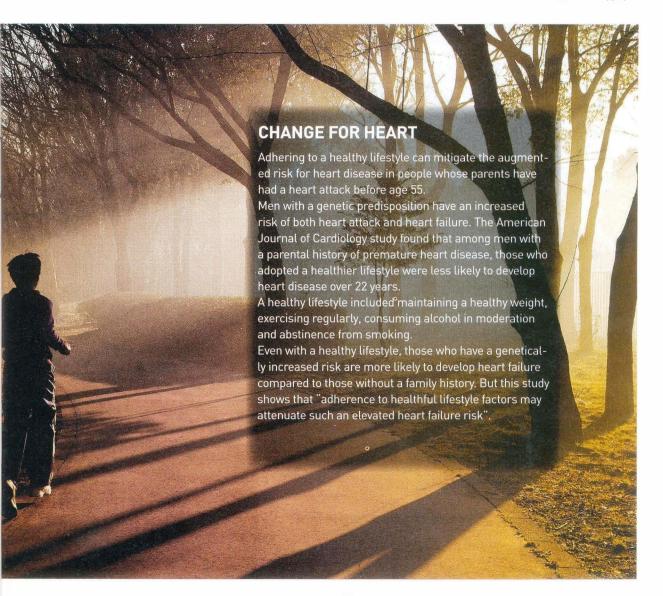
Surgeons are relying more and more on robots to help perform surgeries. Snake robots are creeping metallic tools that can crawl through your body helping surgeons perform surgeries on heart, prostate cancer and other diseased organs.

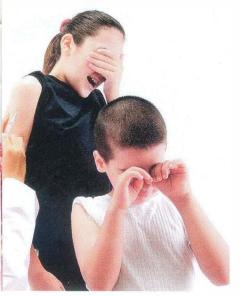
The snake robots carry tiny cameras, scissors and for-

ceps and are powered by tethers that humans control.
Researchers are working on nanobots that will roam the body on their own without tethers.
Snake robots allow surgeons to make small and precise incisions, helping the patient heal faster. It can make complex surgeries faster and easier and reduce medical costs.









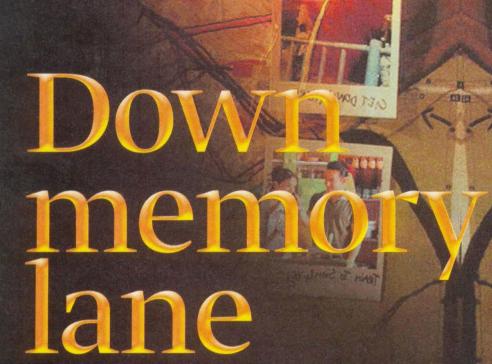
#### **SMART SHOTS**

If you are scared of needles, hope is at hand. Researchers at MIT have developed a jet-injection system that can deliver a range of medicine doses through the skin to various depths without the use of painful needles. The needleless device delivers medications at nearly the speed of sound using a small, powerful magnet and electric current. The jet injector works in two phases: a high-pressure phase that allows the medicine to penetrate the skin and reach a desired depth and a low-pressure phase that delivers the drug in a slow stream and is easily absorbed by the surrounding tissue. The team is also working on an injector that can use vibrations to turn drugs in powdered form into fluid form which is then delivered through the skin like a liquid. A powder delivery system could potentially save millions of lives, especially in developing countries, by enabling wider use of powder vaccines that don't spoil or require cooling or refrigeration unlike liquid vaccines.

The findings are reported in the journal Medical Engineering & Physics.

Contributor: SHYLA JOVITHA ABRAHAM

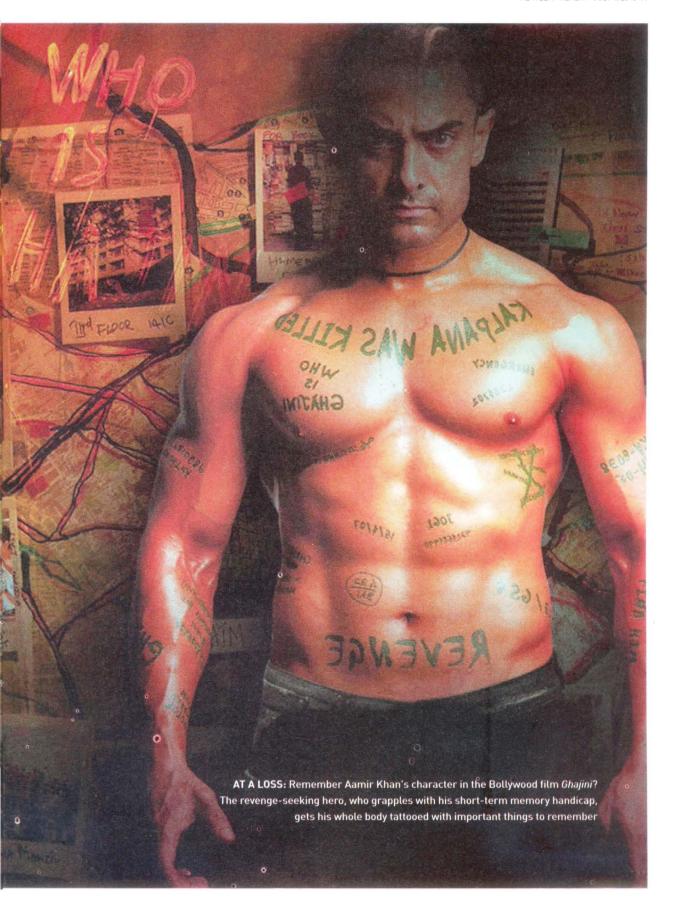
COVERSTORY



CIET DOWN HERE

Some of us are forgetful, while some remember too much. Memory is, indeed, one of the most fascinating functions of the marvel called human brain

BY MINI P. THOMAS



ooking for missing keys is part of the morning routine for many of us. Sometimes we struggle to remember our email password and recalling the name of an acquaintance becomes as hard as solving a tough riddle. Why does our memory fail us?

Asif Merchant, managing director of Catwalk Worldwide in Mumbai, is yet to figure it out. He makes a lot of notes while talking to someone over the phone and misplaces them. "It turns out to be a big loss," he says. Forgetting to return a call gives him guilt pangs. "Sometimes I even forget to take money while leaving home," rues Merchant. The 45-year-old is learning to live with his absentmindedness, though his family broods over it a lot.

Memory problems worry multitasking super moms, too. "I broke my leg two years ago. Now I just can't remember whether it was the right one or the left," says a friend who has been juggling her home and career. Some keep worrying about whether they had unplugged the iron box or turned off the stove even after reaching office, while some others forget to take their packed lunch while leaving home for office. Forgetting to take out clothes from the washing machine and fish from the freezer is perhaps too common.

You might argue that your hands are full, you have a hundred things to do, but do those casual slips and small omissions point to a graver cause? "It depends on why you forget," says Dr Jamuna Rajeswaran, associate professor at the department of clinical psychology at National Institute of Mental Health and Neuro Sciences (Niinhans), Bangalore. "Forming a memory involves integrating different sensory experiences

(encoding), converting short-term memory into long-term memory (consolidation), and recalling stored information (retrieval). Sometimes you may have trouble retrieving information just because you were inattentive while the sensory experiences were getting encoded into the brain. Meanwhile, memory problems can occur due to a faulty component of any one part of your memory system. Our memory tests help identify such problems."

Memory lapses found in younger patients are often caused by psychological causative factors rather than degenerative problems. "One can have pseudo-dementia due to depression, stress or anxiety," says Dr Mathew Abraham of Indira Gandhi Cooperative Hospital, Kochi, where the country's first memory clinic started functioning in 1999. "We find out whether the patient makes mistakes with money or directions as Alzheimer's patients do. Even how one cooks sambar gives a lot of clues about one's cognitive functions, as it involves a series of sequential things," says Abraham. "We rule out chances of infections like HIV, tuberculosis, meningitis and tumours, which can also sometimes lead to memory loss."

Memory, "a stored pattern of synaptic connections between neurons", is one of the most fascinating functions of the human brain. Without memories, we are no longer what we were. Without memories, we lose our selves, our identity.

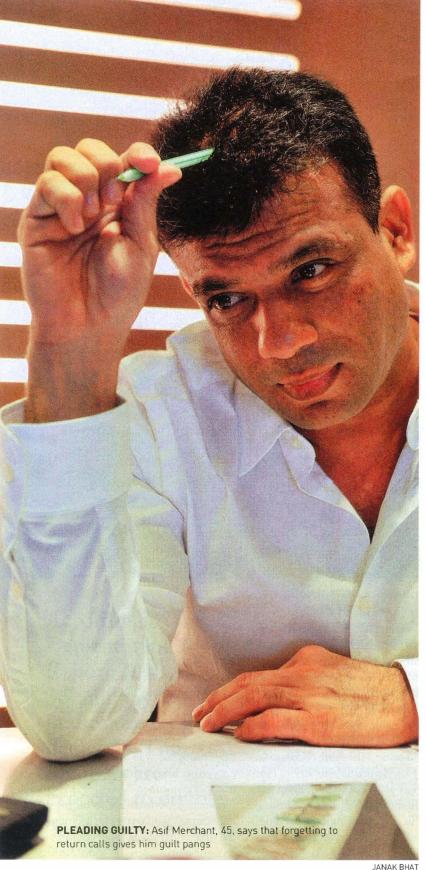
Your iPad or PC may look humble when juxtaposed against the human brain. The human brain has around a hundred billion neurons and, together, they can make around a thousand trillion synapses whereas the memory capacity of a personal computer is just about 100 billion bytes (100 GB).



The human brain has a hundred billion neurons. Together, they can make a thousand trillion synapses whereas the memory capacity of a PC is just about 100 GB.

But do memories become obsolete when multiple gadgets take over as extensions of the brain? "It is not likely to happen," says Dr Shiv K. Sharma, additional professor and scientist at the National Brain Research Centre in Manesar, Haryana. "We need memory not only to remember facts and figures, but also for a smooth sailing in life. It helps us adapt to a particular environment. Memory is vital for decision-making and our day-to-day functioning." So you take a call on whether to say 'hi' to your neighbour, based on the experiences you have had with him, which are stored in the brain in the form of memories.

But, sometimes, memories fly away from us. There can be many reasons for memory lapses and



disorders. "Mid-life stress is a risk factor for dementia in old age," says Dr Vinay Goyal, associate professor of neurology at All India Institute Of Medical Sciences, Delhi. Studies have shown how a major episode of depression or prolonged stress leads to dementia. "Stress affects memory in multiple ways," says Sumantra Chattarjee, professor of neurobiology at the National Centre for Biological Sciences (NCBS) in Bangalore. "Due to stress, your cognitive functions will go downhill and memories of facts and events will get impaired. So you may have difficulty in remembering phone numbers and such things," he says. "This is because the neurons in the hippocampus, which codes and processes information from sensory organs, shrink and lose their branches as a result of stress."

Animal and clinical studies done by Chattarjee and his colleagues throw more light on the effects of stress on memory. They showed that even as the hippocampal neurons shrink, those in another part of the brain called the amygdala, which is the hub of neural connections related to emotional events, grow in size because of stressful experiences. "This is the reason why we have vivid memories of stressful and fearful experiences even after the stress is over, which leads to further anxiety and fear. In short, the hippocampus crumbles and the amygdala becomes stronger due to stress," adds Chattariee.

Even very brief, yet severe, stress caused by sexual abuse, violence, rape or accidents can have a detrimental effect on memory. Social stress also contributes to memory problems. "Suppose you have a very hierarchical system in your office and you have to put up with your seniors. This moderate level stress, which goes on for months or years, can result in permanent damage to your amygdala. Our lab experiments show how animals which are lower in terms of social ranks get bullied around by stronger



and bigger ones and end up having problems with their amygdala," he says.

Experts point out that stress can be one of the factors responsible for the increasing number of dementia (memory impairment) patients in India. According to the Dementia India Report 2010, 3.7 million people in the country have dementia. The numbers are expected to double by 2030.

"Dementia is basically an agerelated disease and the increase in the number of patients has much to do with increased longevity," says Dr P. Satish Chandra, director of Nimhans. "At least 2.1 million of the dementia patients in the country are women. The higher prevalence among women could be due to the fact that they live longer than men."

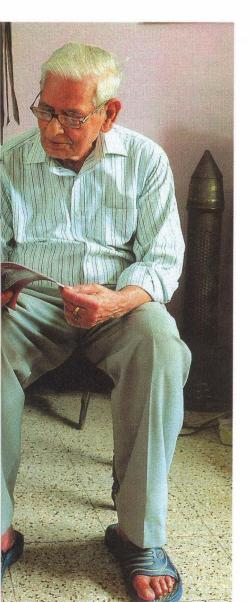
Sukla Bhattacharya, 76, of Kolkata, was diagnosed with Alzheimer's disease, the most common form of dementia, in 1994. Her 86-year-old husband, Brigadier S.P. Bhattacharya has been taking care of her with single-minded devotion. Bhattacharya used to read out fairy tales to Sukla because

these stories, he feels, used to comfort her.

As the disease progressed gradually, Sukla had severe memory problems. "The woman who could prepare and serve food for 25 people single-handedly found it hard to even serve three items of breakfast in a sequence," he recalls. "By 2000, she was unable to read and write. She couldn't even dial a telephone number."

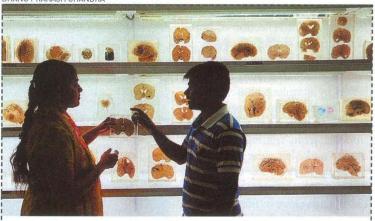
Things got worse in the following years. "Sukla started treating me like a stranger. She couldn't recognise me even on our 50th





SALIL BERA

According to the Dementia India Report 2010, 3.7 million people in the country have dementia. The numbers are expected to double by 2030.



PRESERVING FOR POSTERITY: The brain museum has 350 samples

# Museum of memories

There are 350 samples of the human brain, shrouded in silence. Dr S.K. Shankar, emeritus professor and principal coordinator of the Human Brain Tissue Repository at the National Institute of Mental Health and Neuro Sciences, showed me around the brain museum, the only one of its kind in the country. The brains on display in formalin-filled jars reminded me of the walnuts in the transparent plastic containers in my kitchen.

But they are not as simple as they seem. Each brain has about a hundred billion nerve cells. New synaptic connections between the neurons are created whenever a memory is formed.

"Our knowledge of memory formation and memory disorders has been derived mainly from patient studies," said Shankar. He then held out a jar containing the brain of an Alzheimer's patient. "This brain weighs only 800gm, whereas a normal adult human brain may weigh anywhere between 1,000 and 1,500gm," he said. "Due to Alzheimer's, it has shrunk as it has lost all its neurons."

The museum has samples of brains affected with various types of dementia, like fronto-temporal dementia and Parkinson's disease with dementia. Shankar also showed me a jar labelled 'stroke'. Looking at the brain sample, he was reminded of a patient who had multi-infarct dementia associated with hypertension (high blood pressure). "His neuronal connections between areas involved in memory formation were lost. Because of this the neurons connected to those cables underwent degeneration resulting in memory loss and dementia," he recalled.

Having worked as a neuropathologist for 32 years, Shankar knew many of the patients whose brain samples he had collected for the museum personally. He works till 8 p.m. at the museum, surrounded by those memories.

wedding anniversary. Once, on seeing a mirror reflection of both of us together, she stood still for a few minutes looking confused," says Bhattacharya. This was followed by a violent phase. "I had to tie her hands up to prevent her from hurting herself and me. To stop her from spitting around, I used to make her wear a mask."

When everything else fails, Bhattacharya employs his ingenuity. Once Sukla came to Bhattacharya yelling, "I want to commit suicide!" Bhattacharya, who knew how much she loved the movie *Sholay*, rekindled those memories and she started laughing. Sometimes he would pacify her by talking to her about Amartya Sen, who was her batch-mate at Presidency College, Kolkata, and other friends with whom she was very close to.

Of late, Sukla has become very quiet. She sleeps most of the time and goes for walks six times a day like an obedient child. She had a "phenomenal memory" and she used to win prizes for quiz competitions during their Army days. Bhattacharya feels that if it could happen to Sukla, it can happen to anyone.

Most of the scientists working on Alzheimer's disease consider that the accumulation of an abnormal protein called amyloid beta plaque between neurons in the brain is the main culprit. Studies at Nimhans show that neurodegeneration accounts for 58 to 60 per cent of dementia cases. "Twenty per cent of the cases are of vascular dementia. which is caused by diabetes, hypertension, obesity and smoking," says Chandra. "Infections like tapeworm infection and TB of the brain constitute 17 per cent. In the third type, the brain shrinks and loses its volume. And last is miscellaneous variety due to thyroid problem." Experts point out that India could be heading for a de-



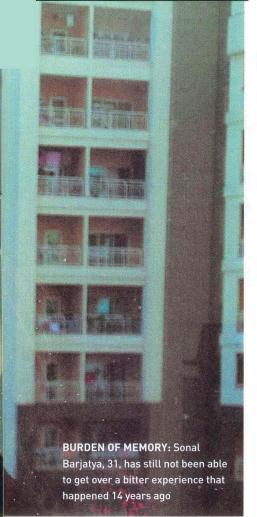
mentia epidemic.

There are different ways to test memory. "The tests we use at Nimhans assess various aspects of memory such as short term memory, encoding, as well as long-term retrieval. Some assess verbal memory while others evaluate the visual features of memory," says Niranjana Bennett, a PhD scholar at the institute. "Subjective complaints of memory can be objectively defined by these tests, as norms were developed at Nimhans. The performance of patients with traumatic brain injury, mild cognitive impairment, dementia, stroke, tumours and a host of other conditions are, therefore, compared with these norms, to ascertain if there are indications of memory deficits."

As a significant portion of the ageing population in the country is struggling to rekindle memory,

there are people who are overburdened by them. A 41-year-old administrative assistant from California, who is referred to in medical journals as AJ, remembers each and every day in her life since age 11, as if in a movie. She doesn't make any conscious effort to memorise them. She remembers her trips to the provision store and what the weather was like on a day decades ago. She still has vivid memories of the day a man she had a crush on telephoned her-it was on August 3, 1986 at 12.34 p.m. Good memories do comfort her a lot, but bad memories don't spare her either. So what most people would consider a gift has become a "burden" for her, and she yearns to be "a simple person, without all that stuff in her head".

While AJ's extraordinary memory is for autobiographical de-



BHANU PRAKASH CHANDRA

tails, Delhi-based 12-year-old Rishikesh S., who is autistic, is exceptionally good with dates and days. "He can remember calendar dates and days for the last five years," says Dr Sameer Malhotra, head of the department of Mental Health and Behavioural Sciences, Max Healthcare, Delhi, who has been treating him for behavioural problems.

Rishikesh used to be restless and his parents were worried about his fidgety behaviour and outbursts. During the treatment, Malhotra and his team observed that Rishikesh was quick in picking up musical notes. "Alongside the treatment for behavioural problems, we counselled Rishikesh's parents to encourage him with his uncommon memorising abilities. Now he can play the keyboard and tabla quite well," smiles Mal-

# DEMENTIA

# TAKE CARE WITH CARE

# Understand dementia to treat the affected with dignity

BY NILANJANA MAULIK

Dementia is a disease of the brain, which often starts with memory problems, mood swings and difficulty in communication and coping with day-to-day tasks. The condition also affects the physical health of the person in the form of constipation, dental problems, poor eyesight, fits, hearing problems, incontinence and pressure sores.

A dementia patient has to come to terms with a whole lot of changes in life. Initially, they may have trouble finding words, finishing thoughts, following directions or remembering names and other information. Reading and writing will gradually become difficult, and it will be harder to take in new information and make decisions. They may get irritable and frustrated at times. Later, as time passes, they will find it difficult to perform routine functions. Eventually, they will need help for bathing, dressing and eating. These changes are very gradual and impossible to predict.

Each person with dementia is different. Though it may become difficult to continue some of the usual activities, dementia patients may re-discover other things to enjoy—painting, gardening or listening to music.

My association with dementia patients for the last 18 years has taught me the best lessons in life. Dementia is a devastating disease, no doubt. But, like any other condition, we need to learn to accept the change and to choose whether to live well or to regret the loss every moment.

I have come to believe in an important lesson after being with these patients: the moment we stop treating them with dignity they lose theirs and give up on life.

Our goal as caregivers is to maintain the person's quality of life for as long as possible. And this goal is likely to involve a number of approaches—both medical and other more practical interventions.

Another important aspect of the caregiving role is to improve our understanding of dementia as this increases our tolerance level. We can then respect the dignity and recognise the existing skills of the patient. As caregivers we must do everything to help the person retain their sense of identity and feelings of self-worth.

Nilanjana Maulik is director of Dementia Services at ARDSI Kolkata and secretary general of ARDSI National. hotra.

Memory researchers say that emotion has a profound effect on memory, and memories having emotional content stay longer in our minds. And, women generally are known to have better emotional memory than men.

Sonal Barjatya, 31, of Indore, hasn't celebrated her birthday for the last 14 years, as memories of a bitter experience she had on her 17th birthday still haunt her. Sonal's father wanted her younger sister to be a singer. So her mother and sister shifted to Mumbai.

Sonal was to join them and her father wanted to celebrate her 17th birthday in a grand way, as he thought it would be her last birthday in Indore. "Everything was okay, when suddenly one of my aunts came to me and asked why my dad threw such a big party when we were going through financial problems," she recalls. "She started blaming me ruthlessly and kept saying that it was all because of me. I was completely broken."

That was the last time Sonal celebrated her birthday. "Even to-day, I feel bad when my birthday approaches. I can't face my birthday. I want the memory of that day to disappear," she says, with tears in her eyes.

Sonal now stays in a posh apartment in Bangalore, takes tuition classes for school children. Though she has not been able to get rid of her bitter memories, she advises the children on how to sharpen their memory.

"Be attentive in class. After reading a lesson, take a break and read it again. This helps form long-term memories, instead of reading it several times one after the other," she reminds them. "And sleep well before exams, as memory consolidation happens during sleep."

Some names have been changed.

# GUEST COLUMN

# Science and signs

# How we form memories, and why we lose some

BY DR ASOK R. KUMAR



emories are not located particular place the brain. They are a brain-wide process. Encoding is the first step in creating a memory. Sensations like physical features of an individual or, colour, scent or smell of a fruit, travel to the hippocampus in the brain, separately. The hippocampus integrates these perceptions into one single experience of a specific person or a fruit. The hippocampus, along with the frontal cortex, another part of the brain, then analyses these various sensory inputs and decides whether they are worth remembering. If they are, they become part of our

long-term memory. Various bits of these information are then stored in different parts of the brain.

Although memory begins with perception, it is encoded and stored using the language of electricity and chemicals. The electrical firing across the synapses triggers the release of chemicals called neurotransmitters. These chemicals diffuse and reach the neighbouring cells. As we learn and experience the world, changes occur at the synapses. More connections are created in the brain. It organises and recognises itself in response to our experiences, forming memories, triggered by the inputs prompted by experience, education or training. These changes are reinforced with use and practice.

Synapses or connections between nerve cells (neurons) are responsible for transmitting nerve signals. Making, breaking, strengthening or weakening of synapses will directly affect learning and memory.

The brain encodes huge amounts of information, but only a small fraction is stored for a longer time. There is now compelling evidence that the long-term storage of memories preferentially occurs during sleep (Journal of Neuroscience, 2011). Sleep plays an important



role in memory, both before and after learning a new task. Lack of adequate sleep affects mood, motivation, judgment and our perception of events. Good sleep through the night is optimal for learning and memory. However, the factors involved in sleep-associated memory consolidation are poorly understood.

#### Fear memories

Erasing memories is as much of interest to researchers as its consolidation. A new study (Nature, January 2010) has shown that updating memories of fear with non-fearful information provided through extinction training blocks previously learnt fear responses and leads to a lasting change in the original fear memory. These results have significant implications for the treatment of anxiety disorders.

- Make associations (connect things in your mind) such as landmarks to help you find places.
- ♦ Keep a detailed calendar.
- Put important items, such as house and car keys, in the same place every time.
- Repeat names when you meet new people.
- Keep your mind and body busy.

Current

form of therapy relies on extinction, but it has the drawback that extinguished fear could resurface under certain conditions. The discovery that certain pharmacological agents can erase memory was encouraging. However, most of these compounds were found to be toxic to humans. The current study proposes a more natural

intervention, allowing a safe and easily implemented way to prevent the return of fear. This is based on the premise that re-consolidation is an adaptive update mechanism by which new information is incorporated into old memories. By introducing new information during the re-consolidation period, it may be possible to permanently change the

fear memory.

Old age and

# Old age and memory loss

As we grow older, memory problems tend to increase. Older people may experience decreased blood flow to the brain which could impair memory. The production of growth factors—hormones and proteins that protect and repair brain cells and stimulate neuronal

# Remembrance of things past

You are at an examination and can't remember that most important formula. You bump into someone you know very well, but, gosh, what was her name?!

Most of us have been through similar situations at some point in life. We curse our bad memory, apologise, and some even resort to memory enhancers. But why do we forget certain things while some memories seem to be forever?

### Forming memories

Memory formation requires changes in the machinery of cells and neuronal synapses (connections between two nerve cells through which they communicate with each other). Like other cells, neurons contain protein molecules which are involved in conveying a signal from the environment to the cells. These signals lead to changes in a lot of processes like encoding the information, storing it and making it available for retrieval at a later point. These processes eventually modify the synapses and contribute to memory formation. The ability to retrieve a particular information depends on where it is stored.

# Short, long and other memories

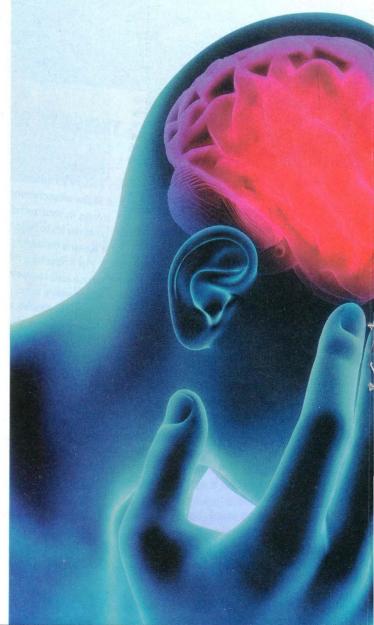
We remember some things for a short time, but there are things that we remember for long, in some cases for years or even a lifetime. Thus, memory can be short-term and long-term.

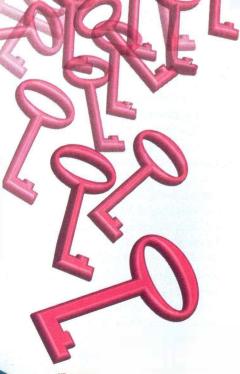
Long-term memory is of two types—declarative and non-declarative. Declarative are memories that can be consciously recalled such as facts and knowledge. This can be further divided into semantic memory—memory of factual information like arithmetic, vocabulary—and episodic memory—memory of specific personal experiences like a wedding or attending a class.

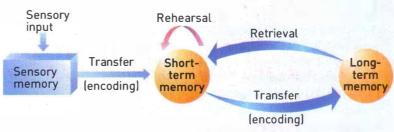
Non-declarative or procedural are unconscious memories such as skills, like riding a bicycle.

#### Present tense

Amnesia is a condition in which one's memory is lost. There are two kinds of amnesia. Anterograde amnesia is the loss of long-term memory and results in the inability to make new memories. Retrograde amnesia refers to the loss of pre-existing memories and the patient is unable to remember past events.







Alcohol primarily interferes with the transfer of information from short-term to long-term storage

#### Tests

There are several tests to measure one's memory. Mini Mental State Examination (MMSE), a short question-naire usually administered by qualified professionals, is commonly used to test for memory impairment.

### **Breakthroughs**

The discovery of a synaptic phenomenon known as "long-term potentiation" was a milestone in the research on the mechanism of memory formation. In long-term potentiation, which is induced while learning a particular task, the strength of the neuronal synapses increases and this persists for a long time.

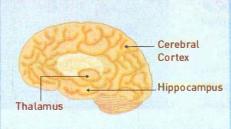
The discovery of "synaptic tagging" helped explain how only a few synapses get modified in response to activity.

In more recent times, the finding that memory gets allocated to the neurons that contain higher levels of one of the factors involved in gene expression is another breakthrough in this field.

# **Memory enhancers**

Many compounds that modify different processes in the

cells and show memory enhancing effects have been identified. But it is hard to comment conclusively on the efficacy of the memory enhancers available in the market. It is possible that they work, but, there seems to be a lack of rigorous scientific investigation on these products, which is why they haven't reached clinics yet. So consult qualified medical professionals before taking such formulations.



#### **Patient HM**

Patient studies have tremendously contributed to our current understanding of memory formation. Especially studies on one patient famously known as HM. His full name—Henry Gustav Molaison—was revealed only after his death. In a surgery HM underwent for epileptic seizures, a portion of his brain including the hippocampus was removed. Interesting changes were noticed in him after the surgery. He was unable to form long-term declarative memory. But he was as good as a normal man in performing other common tasks. Also, HM suffered from amnesia as he was not able to remember events that happened some time before the surgery. His brain surgery allowed a good understanding of how particular areas of the brain are responsible for specific processes hypothesised to occur in forming memories.

# Memory and the human brain

**Cerebral cortex**: Previously-formed memories are thought to be stored in the cerebral cortex. **Hippocampus**: Plays an important role in consolidation of information from short-term to long-term.

**Thalamus:** Functionally connected to the hippocampus and is, thus, crucial to human

episodic memory. It is also important for mental alertness.

(Text courtesy: Dr Shiv K. Sharma, additional professor and scientist at the National Brain Research Centre at Manesar in Haryana.)



# The power of plasticity

The human brain has an amazing capability to adapt and change, even in old age. This ability is known as plasticity. With the right kind of stimulation, our brain can form new neuronal pathways and change existing interconnections. We can use our inherent power of neuroplasticity to increase our cognitive abilities, to enhance our ability to learn new information and to improve our memory.

Get moving Our ability to remember will improve when we provide our brain with a good diet and practice other healthy habits. Adequate blood circulation is very important for the health of the brain. Blood carries oxygen and nutrients for the well being of neurons. Physical exercise increases oxygen supply to our brain and reduces the risk of other disorders that lead to memory loss such as diabetes and cardiovascular illness. It also enhances the effects of helpful brain chemicals and protects the brain cells. New research shows that walking six to nine miles every week can prevent brain shrinkage and memory loss. According to American Academy of Neurology, older adults who

walked between 6 and 9 miles per week had more grey matter nine years after the start of the study as compared to those who did not walk.

Sleep well When we are sleepdeprived our brain cannot function at full capacity. Creativity, problem-solving abilities and critical-thinking skills are hampered. Sleep is critical to learning and memory.

Be socially active Several studies have shown that a life with friends and fun activities provide cognitive benefits. Healthy relationships stimulate our brain cells and interacting with others may be the best kind of brain exercise. It has been reported that people with the most active social lives had the slowest rate of memory decline. Laughter engages multiple regions of the

growth—also declines with age. The synapses also begin to falter, which begins to affect the ability to retrieve memories.

One of the reasons for the deterioration of memory could be the major cell loss in a tiny region in the front of the brain. These cells are responsible for the production of a neurotransmitter called acetylcholine, which is vital to learning and memory. Another important area, hippocampus, loses 5 per cent of its nerve cells with each passing decade for a total loss of 20 per cent by the time we reach age 80. The memory decline can also be due to several other factors like unhealthy gene inheritance, exposure to poisonous substances, smoking and excessive alcohol consumption.

# Age-related memory loss vs dementia

The primary difference between age-related memory loss and

# **SMART TIPS**

Pay attention It takes not more than 8 to 10 seconds of intense focus to assimilate a piece of information into our memory. If you are distracted, find a quiet place where there is no disturbance.

**Involve as many senses as possible** The physical act of rewriting information might help register it in our brain. Even if we are good at visual perception, reading out loud what you want to remember is very helpful. Some people try to recite rhythmically and that helps. Also, try to connect new information to that you already know.

Think basic and repeat At the time of learning complex material, focus on understanding basic ideas rather than memorising isolated details. Explain the newly learned complex information to someone else in your own words.

dementia is that the former is not disabling. The memory lapses have little effect on our ability to undertake day-to-day tasks. Sometimes, even what looks like significant memory loss can be caused by treatable conditions and reversible external factors. They could be side effects of medications such as antihistamines, blood pressure and arthritis medication, antidepressants and painkillers.

Depression can mimic the signs of memory loss. Vitamin B12 de-

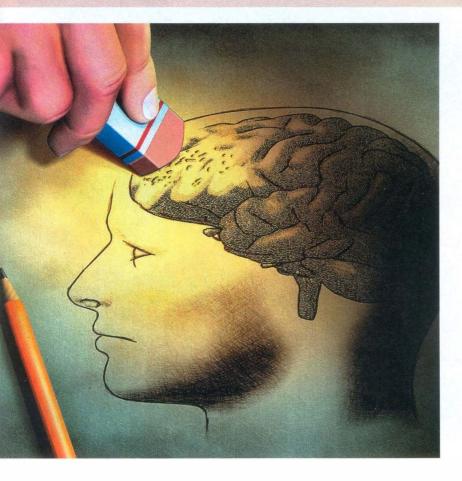
brain and laughter is, indeed, the best medicine. Listening to jokes activates areas of the brain vital to learning and creativity. Spending time with children is also good for the brain.

Meditate Studies have shown that meditation alleviates conditions such as depression, anxiety, chronic pain, diabetes and high blood pressure. Meditation can also improve focus, concentration, creativity and learning and reasoning skills. It is believed to increase the thickness of the cerebral cortex and encourage more connections between nerve cells—all of which increases mental sharpness and memory ability.

Eat right The brain needs a lot of fuel to function well. A diet based on fruits, vegetables, whole grains and healthy fats is good for memory. More and more evidence indicates that Omega-3 fatty acids are beneficial for brain health. Sources of Omega-3 fatty acid include walnuts, ground flaxseed, flaxseed oil, pumpkin seeds and soya beans. It is advisable to avoid red meat, whole milk, butter, cheese, sour cream and ice cream. It is important to have lots of leafy vegetables such as spinach, broccoli, lettuce and fruits like apricots, mangoes and watermelon. Drink wine or grape juice in moderation.

Carbohydrates are fuel for our brain, but simple carbohydrates like sugar, white bread and refined grains give a quick boost followed by a rapid crash. Complex carbohydrates such as wholewheat bread, brown rice, oatmeal, high-fibre cereal, lentils and whole beans provide energy that lasts longer.

Keep the brain busy The more we work out our brain, the better will it be able to process and remember information. Brain activity needs to be something that is out of our comfort zone, like, for instance, learning a new language, an instrument or sport, or tackling a very challenging crossword puzzle. The activity should be exigent, but not so difficult that we end up not doing it. Playing games that involve strategy, like chess and bridge, and reading magazines and books that challenge our existing knowledge are good for keeping the brain busy. Stay hydrated Dehydration is a common problem in older people and severe dehydration leads to confusion, drowsiness, memory loss. It is important to stay hydrated. Drink six to eight glasses of water a day.



ficiency that protects neurons can sometimes cause permanent damage to memory. Older people have a slower nutrition absorption rate, which makes it difficult for them to absorb the required amount of vitamin B12. If the vitamin B12 deficiency is addressed in time, the associated memory problems can be reversed.

The brain is capable of producing brain cells at any age, so significant memory loss is not an inevitable result of ageing. Our lifestyle, health habits and daily activities also have a huge impact on the health of our brain.

Dr Kumar is director of Microscopy Imaging Core Facility at the Center for Dementia Research, Nathan Kline Institute for Psychiatric Research; assistant professor, Langone New York

University School of Medicine, and research scientist at the Center of Excellence in Brain Aging and Dementia and Neuroscience Center, New York.

# **BODY**SCAPE

# Dead tired

Fatigue is a feeling of weariness, tiredness, lack of energy and diminished motivation. It can be mental, physical, or both. In many cases, it is a short term condition, being a normal response to increased mental or physical activity. Rest and relaxation can offer relief in such cases. But, chronic fatigue could be a symptom of an underlying condition. It can also be idiopathic, occurring without an explainable cause.

Fatigue should not be confused with drowsiness (the need to sleep), shortness of breath after strenuous work, or muscle weakness. Those who suffer from fatigue may have three primary complaints: lack of ability/motivation to start an activity, tiring quickly after starting the activity and/or difficulty with concentration and memory to start or complete an activity.

TEXT BY AJISH P. JOY & GRAPHICS BY N.V. JOSE

# Fatigue could be a symptom of

- Diabetes
- Anaemia
- Asthma
- Hepatitis
- Thyroid problems
- Kidney and liver diseases
- •Influenza
- Malaria
- Cardiac problems
- Pneumonia
- Infectious mononucleosis (Glandular fever, caused by a viral infection)
- Tuberculosis
- •Sleep apnoea
- Narcolepsy
- Rheumatoid arthritis
- •Pregnancy
- Obesity
- •Cancer
- HIV

Depression, anxiety, alcohol/drug abuse, and usage of certain medications, too, can cause fatigue

# Investigation

A full physical examination, including heart, lungs, abdomen and the neurological system. The doctor may also look for evidence of anxiety or agitation. Routine tests include:

- Complete blood count
- Erythrocyte sedimentation rate (ESR)
- Electrolytes
- Blood sugar

imaging or testing.

- •BUN/Creatinine Ratio (to measure kidney function)
- Thyroid stimulating hormone (TSH)
- CPK (creatinine phosphokinase)
   Depending on the results and circumstances, the doctor may also order X-rays,
   CT scans, electrocardiograms or other

In cases where fatigue is clinically diagnosed, musculosketetal problems is the lead cause (19.4%), followed by psychological problems [16.5%).



#### Home care

Stick to a reasonable and balanced schedule

Avoid/reduce alcohol, nicotine, and drug use

Make your diet healthy, timely and well-balanced

Check with your doctor for vitamin supplements

Stay hydrated, drink lots of water Get enough sleep

Try yoga or meditation for relaxation Exercise regularly

Deal effectively with issues that cause stress in daily life

# Contact your doctor if fatigue is accompanied by

- Depression and/or anxiety
- Confusion, blurred vision and dizziness
- Fever and persistent headache
- Unintentional weight gain or loss
- Swelling
- Frequent and severe cold
- •Little to no urine
- Constipation
- Insomnia
- Sleeplessness

# Chronic fatigue syndrome (CFS)

CFS is marked by intense debilitating fatigue, not relieved by rest. It is diagnosed after all other possible causes of fatigue are clinically examined and excluded. The specific cause of CFS is not identified. The diagnosis of CFS is based on three main criteria according to the Centers for Disease Control and Prevention:

Patient has been suffering from unexplained fatigue for six or more consecutive months.

The fatigue significantly interferes with daily activities and work.

The individual concurrently has four or more of the following eight symptoms for six or more consecutive months and they cannot have first appeared before the fatigue:

- post-exertion malaise lasting more than 24 hours unrefreshing sleep
- significant impairment of short-term memory or concentration muscle pain
- pain in the joints without swelling or redness headaches of a new type, pattern, or severity tender lymph nodes in the neck or armpit sore throat that is frequent or recurring

study held in
the US showed that
66% of the doctors
admit to having made a
mistake at least once
due to fatigue.

Companies
lose at least 520 hours
per employee annually
because of fatigue,
according to a study
conducted by Cranfield
management School
in the UK.

women
are four times more
likely to be CFS
victims. People in high
stress jobs are also
highly susceptible.

Nearly 90% of the CFS conditions worldwide go undiagnosed.

Vegetarians
are more likely to
develop fatigue because
of serum B12 deficiency,
which increases
homocysteine levels,
aggravating
fatigue.





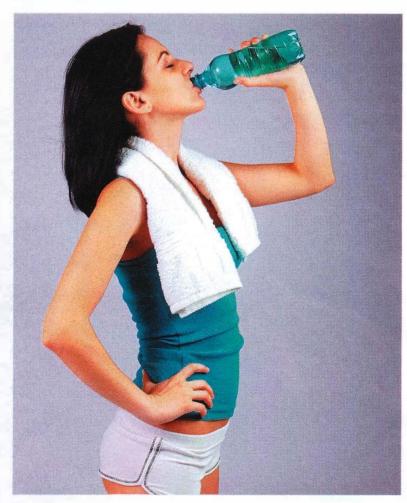
MEETA LALL Nutrition expert, New Delhi Log in to www.the-week.com and click on ASK EXPERT to post your queries online.

# **ASK EXPERT: NUTRITION**

Rhea: I am 18 and I exercise at the gym. Please suggest an appropriate diet plan to help me lose weight effectively.

Have a light snack of about 300 calories about an hour or less before the workout. Also, drink at least two cups of water about two hours before you exercise. Consuming sweets immediately before exercise may cause a rise in insulin followed by a drop in blood sugar resulting in fatigue. Take breaks during your workout to drink fluids—half cup of water every 10-15 minutes. Keeping yourself well-hydrated prevents muscle cramps. Don't consume food during exercise. Immediately after the workout, replenish fluids. Water is the best choice.

Exercise breaks down muscle tissue and depletes body energy. Eating a meal within the golden hour—within 30 minutes or at the most one hour after the workout—is important. This is the time when the muscles absorb the most nutrients, and when glycogen, an energy reserve in your muscles, is replaced most efficiently. Do not eat fatty food because fat slows down digestion. After a workout, our body needs nutrition fast; but fat delays the release of proteins and carbs. So, what should you eat? Proteins and carbohydrates (and of course, drink lots of water). Proteins repair muscle tissue and the carbs restore muscle glycogen as well as help in protein synthesis. Eating a



light snack which combines proteins and carbs in the ratio of 1:2 within 30 minutes of a workout quickly replaces lost fuel and rebuilds your body. Other great options after a workout include: an apple with a cube of low-fat cheese. Some dried fruits (dates/monacca/figs/raisins) and

nuts. Bananas, apples, oranges or diced fruit with paneer or tofu. Whole wheat/multi-grain bread with peanut butter/chicken filling/paneer paste. Peanut brittle (patti or chikki) or even gur with roasted chana. A parantha roll with vegetables or a stuffed parantha.



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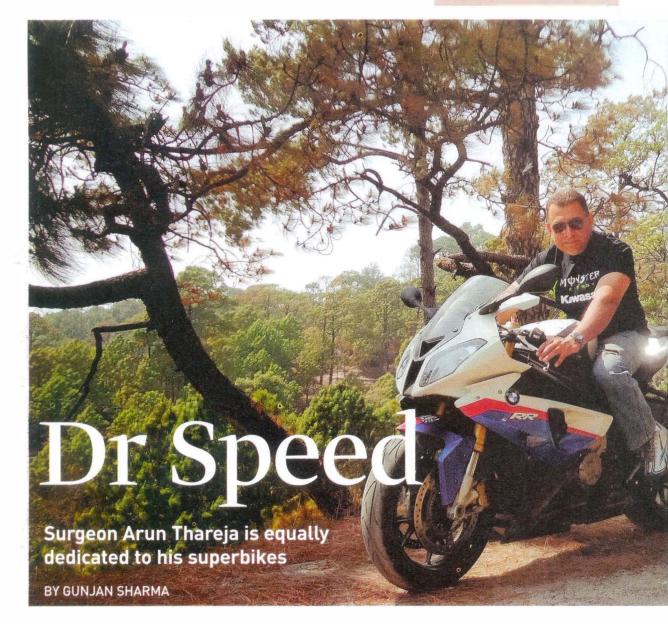
SMARTL

SMART START | INHALE | PAUSE | EXHALE | SMILE

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saw her at an automobile launch. It was love at first sight for me and even after 28 years of marriage, I am still passionate about her," says Dr Arun Thareja, head of the ENT department at Maharaja Agrasen Hospital in Delhi. The lingering passion is for his first bike, a Yamaha RD 350, which was launched in India in 1984, the year he completed his MBBS from University College of Medical Sciences in Delhi.

After his first trip on the new bike on Delhi's Ring Road, the young doctor felt that he had to look macho—like Arnold Schwarzenegger—to ride that ferocious machine. He joined a gym the next day and in a month, with his newly-acquired macho looks and the head-turner bike, he became the 'hero' of Safdarjung Hospital, where he was doing his internship. Soon, a

Kawasaki 440 LTD superbike imported by his friend caught his fancy and Thareja forced his friend to sell it to him.

The young doctor graduated to real superbikes during his honeymoon in Thailand, a heaven for superbikers. There he tried almost 50 superbikes one after the other. "That was the most thrilling and memorable part of my honeymoon. My wife understands and supports my passion for bikes," says Thareja.

In the last 28 years, he has owned around 20 superbikes. The garage at his residence-cum-clinic stands testimony to his passion. He now owns four superbikes, including a 1200cc Kawasaki Ninja, one of the most coveted superbikes. His garage has over 100 miniature models of superbikes and a big tool box which also contains some of the surgical instruments he uses

I even use my scalpels and forceps to service my superbikes as they have a better reach inside the engine.

Dr Arun Thareja

for servicing bikes. There are also helmets in different colours and styles, and posters of superbikes from all over the world.

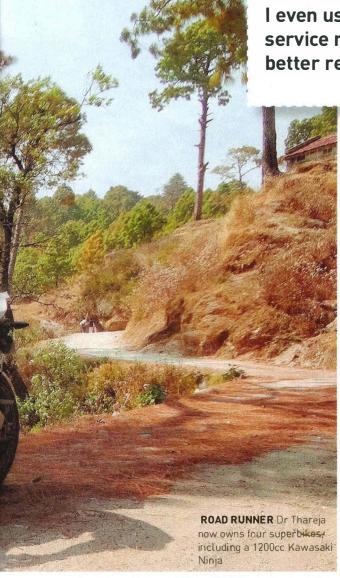
Thareja finds time to tend to his superbikes, generally after finishing his surgical cases and before starting his evening OPDs. "I spend at least an hour with my bikes. I service them myself. When I bought my first superbike, there were only two service stations in the city for superbikes, and taking the bike there for every single fault was difficult. So, I sat with the guy there and learnt it. Now, I know every single detail of my superbikes. I even use my scalpels and forceps to service them as they have a better reach inside the engine."

At 50, Thareja's passion for superbikes is only growing. "It was only in 1997 that I got to know about another superbike owner in the city. Both of us then started going on long rides on our bikes. Soon, we formed the Group of Delhi Superbikers (GODS), which now has 73 members, including retired Army officers, businessmen, pilots and bankers," says Thareja.

Every Sunday, Thareja and about 30 members of the group go for a ride on their superbikes on the highways near Delhi. Sometimes, he goes on a 15-day trip to far off places or shorter trips to nearby places. "We have been to Leh, Ladakh, Spiti Valley and Rajasthan on our bikes. This year we are planning to go to Arunachal Pradesh," he says.

Thareja admits that handling the superbikes in Indian conditions is not easy. But he enjoys the thrill. "Their pick up has no match. They reach 100km/hr in three seconds flat. Riding a superbike at 150km/hr gives you the same feeling as driving a common 100cc bike at 50km/hr. We don't ride them on a week day in the city and never do any stunts on them. We choose GODS members very carefully. Only those who have the maturity to handle these bikes with care qualify," he says.

He reads as much, or may be more, about bikes than medical advancements. He subscribes to nearly all reputed international magazines on superbikes. "I have 100 per cent dedication to biking and 95 per cent to medicine. A cup of coffee and these magazines can take all my stress off," says the doctor as he puts on his black jacket and riding shoes to pose for a picture.





AAYUSH GOEL

# 1+1>2

# The joys and challenges of raising twins

BY MINI P. THOMAS

anju Cassum can't stop worrying that her fouryear-old son, Amaan, doesn't let her cuddle him as often as his twin sister, Samaira. And she is convinced that the aloofness is because she was cut off from him as a foetus. When she was told she was expecting twins in the tenth week of pregnancy, Manju's first reaction was "No way"! "I accepted baby No. 1 with joy as I desperately wanted a sibling for my older daughter," she says. "But I didn't know what to do with baby No. 2. To be honest, I had some negative thoughts."

Doctors thought baby No. 2 looked weak and would get dissolved on its own. "Out of my helplessness and apprehensions about raising twins, I was also hoping that it wouldn't survive," says Manju, who, though, did not want an abortion. The next ultrasound showed that baby No. 2 was growing well, too.

Amaan, baby No. 2, who was born into hesitation, will make do without a fuss even in her absence. "His twin sister Samaira misses me badly when I'm away, but Amaan doesn't," says Manju, 39.

One plus one is more than two. Bringing up twins is a mammoth task, especially in nuclear families. It is this apprehension that made Manju worry even before her twins were born. Nikita Shah, mother of two-year-old identical twins, Aarab and Nishan, considers herself lucky to have a reliable maid. The maid helps bathe and put the children to bed and her husband, Saurabh, takes the boys out in the evenings after he is back from work. "Despite all this, once the children are asleep, both my husband and I sit down for some time doing or speaking nothing. We are completely drained by then," says Nikita.

Raising twins is very different from raising a single child, confesses Nikita. "Breast feeding one baby after another is very exhausting and you always worry whether your milk is going to be sufficient for the babies," she says. "At night sometimes both of them wake up at the same time crying and you can't handle them together. Sometimes, they take turns in getting up keeping the mother awake all through the night!" During the day, the challenges are different. "When you are looking after one child, its twin will run the other way. If you are handling them alone, you

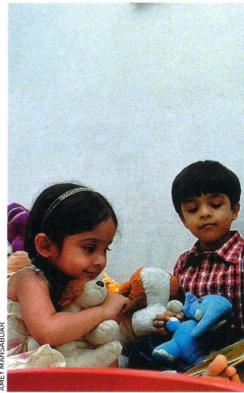
## PARENTING

are at a risk of putting the children in danger unless you have a childfriendly house," she says.

Maintaining a routine becomes all the more important when you have twins. If they eat and sleep at the same time, the mother gets some 'me' time, which can include going to the gym, yoga or catching up with friends. However systematic the parents may be, there can be testing times.

If parents do not handle them the right way, the children could feel the heat of competition at a very young age. Unhealthy comparisons may put undue pressure on the child, making him struggle hard to beat his twin. Failure can lead to inferiority complex and feelings of worthlessness as the child grows up.

Experts say that those having twins require better parenting skills. Chinkal Anand, 36, and her husband, Sanjeev, 38, of Noida are extra cautious in dealing with their 10-year-old twins Vedant and Vansh. "When they were small, if one

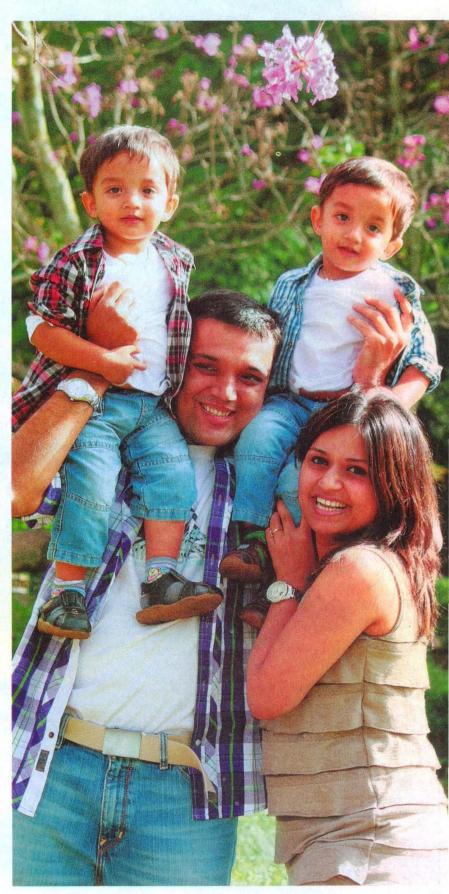


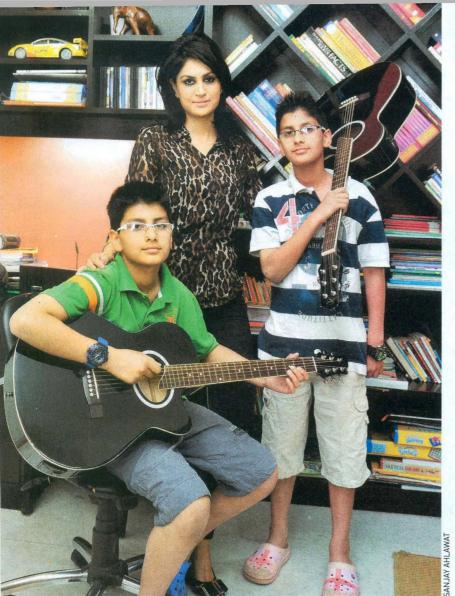
would hug me, the other would push him aside to get close to me," says Sanjeev. "If my wife makes cheese omelette, Vansh won't have it saying, 'You always make food which Vedant likes'. We are very careful while congratulating one in the presence of the other. If I say, 'Oh Vedant, you've done really well,' I can very well expect the question 'What about me?' from Vansh. I even count and measure my words while talking to my boys so that they don't develop an inferiority complex."

Vedant is good with the guitar while Vansh loves dancing, and Chinkal, who quit her job to raise the boys, makes sure both get equal opportunities to improve their talent. Says Sanjeev: "Sometimes one will ask me to not tell the other that he is learning a par-

TOUGH, BUT REWARDING: Saurabh and Nikita Shah with their two-year-old twins Aarab and Nishan; (below) Manju Cassum with Samira and Aman, aged four







TWO GOOD: Chinkal Anand with her 10-year-old twins Vedant and Vansh

# THE TWIN MYTH

BY DR KAMINI RAO

Amid the myth that almost all IVF pregnancies are likely to be twins, facts based on a global study show that about 78.2 per cent of IVF pregnancies are singletons, with the incidence of twins and triplets being 21 per cent and 1 per cent, respectively. But it is to be remembered that every fertility treatment, including IVF, increases the risk for multiple births. Also, as Single Embryo Transfer (SET) is still not widely applied, with the general practice of transfer of two to three embryos, in IVF-ET cycles, it is quite natural to expect a slightly higher incidence of twins. As higher order births are associated with increased maternal and peri-natal morbidity, globalising the trend towards SET could be a good preventive.

Dr Rao is director of Bangalore Assisted Conception Centre.

# **PARENTING**

Unhealthy comparisons may put undue pressure on the child, making him struggle hard to beat his twin. Failure may lead to inferiority complex as well.

ticular song. So I've to keep secrets for both of them!"

It is common for parents to dress their twins up the same way. As cute as it may look, it can cause the children more harm than good, say experts. "If it is one boy and one girl, parents shouldn't try to make them wear the same kind of clothes. Even if they are the same sex, better dress them differently. Each of them has his or her own unique personality and they shouldn't be compelled to get into something which doesn't fit them," says Dr Manju Mehta, professor of clinical psychology, All India Institute of Medical Sciences, Delhi.

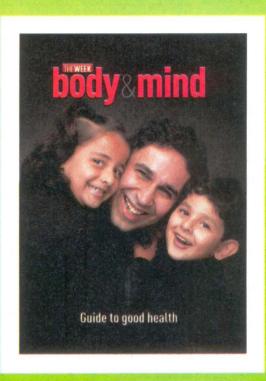
Encouraging your twin to make friends with other children is also important for their psychological growth, or they may lose their ability to deal with problems singlehandedly.Psychologists say parents having twins can relax once the children grow up as they develop an inseparable bond. Despite all the fights, Vedant and Vansh are best friends, too. Says Chinkal: "If I say I'm going out for dinner, my boys say 'Wow! What fun!' By the time I come back, the whole house will be in a mess. But they would have had a nice time together. "

# Bring out the best in friendships

'body & mind', an 80-page booklet on better ways to keep your body and mind healthy, can all be yours for free. All you have to

do is fill in the names of 12 friends on the other side of this page, detach it and mail it to us. Hurry and get hold of this booklet that would do a lot to improve your health.

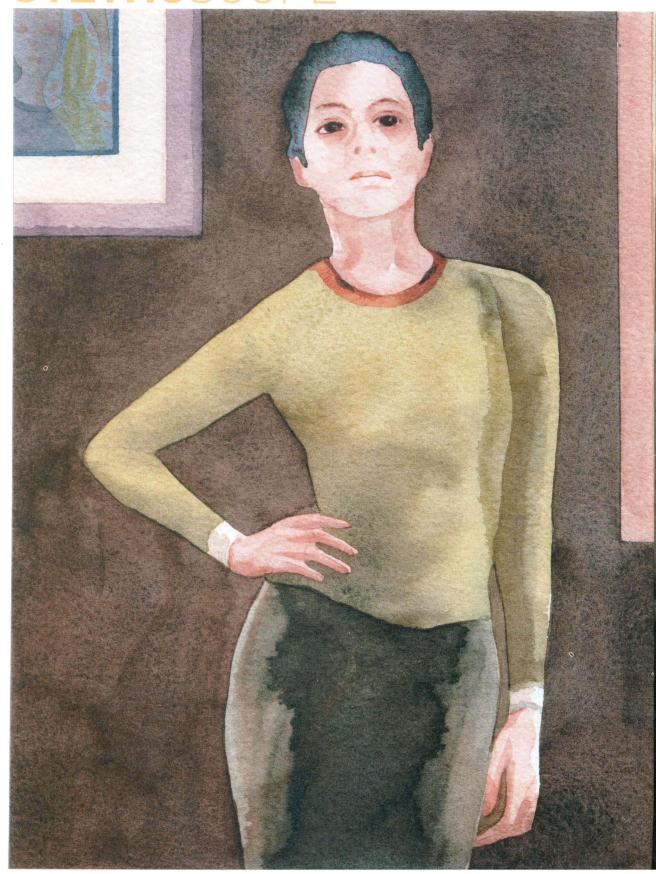






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# **STETHO**SCOPE







BY DR RANJANA SRIVASTAVA
An oncologist, commentator and author
of Tell Me the Truth-Conversations with
My Patients about Life and Death, she
lives and works in Melbourne, Australia.
feedbackrsriv@gmail.com

# Costly crab

hey are a middle-aged couple enduring a prolonged struggle with cancer. She was first diagnosed four years ago, rather incidentally, when she went to the family doctor with her youngest son, then 12, and mentioned that she wasn't feeling all that well. Just one week later, she was in surgery. The operation was complicated and the recovery much more prolonged than expected. Her oncologists fretted that she might never be well enough to have the chemotherapy she needed but sure enough, a combination of her tough spirit and practical nature pulled her through. When the whole ward was asleep at night, she would coax her nurse to take her for a walk. With the corridors quieter and less people staring at all the tubes that snaked out of her, she said the ratio of walking to worrying changed. Some months later, she was having chemotherapy, pleasantly surprising everybody with her journey into remission. Everyone celebrated, praying that the respite would be long-lived.

Two years later, the disease returned. "That's two years I didn't think I had," was her practical response. In that time, she had seen her daughter finish high school and her son win at junior sports. Again, she entered chemotherapy, this time a little more pensive. Again, she emerged better than expected. But an astute patient, she picked up on the warning signs without needing to be told. Her body had struggled to complete the prescribed course; she had ended up in hospital twice in two months; and the response to treatment had been encouraging but incomplete. "I realise it's a matter of time," she said, "but there's nothing wrong with hoping it will be a long remission." In the meantime, she went back to leading a full life, even enrolling in a painting course she had long wanted to do.

Predictably, she was back in the office, this time within a few months. Since then, she has faced several gruelling rounds of chemotherapy. In between, she helps her husband with his accounts, the kids with their homework, and tries to entertain her concerned family and friends. She had always remarked that she was amused by how no one believed she had cancer because she looked so well. "I don't really care, it's what's on the inside that matters," she declared. But lately, her physical appearance has begun to change. Her face has thinned and her clothes don't fit as well. Her skin looks bruised and her previous saunter has slowed to a walk, assisted by a stick.

Today marks four years of her diagnosis. The scan shows widespread disease that even she can appreciate. She doesn't feel all that well. But she wants to see her son finish high school. And as she looks at me with hope, I have to tell her that we have exhausted every reasonable treatment. "There is always something else to give you, but I fear it may do more harm than good," I explain.

"If I am not going to live longer, I want quality of life," she declares.

"Is there anything else?" pleads her husband.

"Darling, one day, you will have to come to terms with the fact that you will inherit the housework!" she smiles, trying to ease the blow.

I hesitate. A fortnight ago, a new treatment became available for her disease. Not yet subsidised by the government, it costs several thousand dollars each month, with no defined period of treatment. The compassionate access scheme the drug-maker runs has a catch—for every amount that it supplies without cost, the patient must purchase the first few. Studies show that if taken continuously, the drug keeps the disease in check for up to four months without improving ultimate survival. A rough back of the envelope calculation reveals the cost in just the first few months to be in the tens of thousands.

I reflect on all I know about the couple. He owns a struggling business. She left her job out of pride when her sick leave outweighed the productive hours. Their two children are still at home, fully dependent. Between them they support his father and her widowed mother. A few months ago he asked me if he really needed to take his insulin—of course, I said, never considering the possibility that he was inquiring about cost. I know that the new treatment would bankrupt them.

Practically every month a breathless announcement is made about a new cancer therapy that promises to transform lives. The truth, as usual, is nuanced. The stated benefit is often a control of some symptoms or a temporary check on advanced disease, always with the risk of toxicity, but understandably, to the average patient, benefit means one thing, living longer.

# Who should make the value judgment that a stay on life for three weeks or three months justifies an exorbitant cost on the public purse?

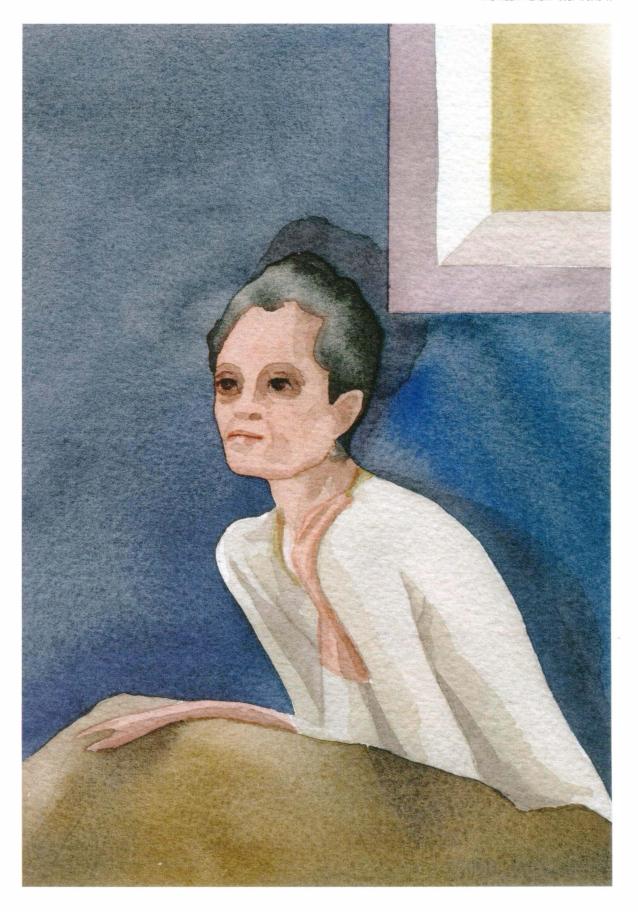
This is the modern ethical dilemma set to be evil not just oncologists but all other doctors—should you discuss an unaffordable treatment with a dying patient? Who should make the value judgment that a stay on life for three weeks or three months justifies an exorbitant cost on the public purse? The rationalist in me could point out that a few more weeks of life are not worth exhausting the children's education fund for. The mother in me grapples with the question of what is a fair price to pay for the privilege of seeing your children for those few extra weeks. Should vulnerable and already burdened patients shoulder these questions, too? The doctor who values autonomy above all else will say anything less would smack of paternalism, yet to me, putting the choice to her just doesn't seem right.

Drug companies argue that the enormous cost of drug development must be recouped. For every one drug that reaches the public, countless have been tried and rejected at great cost. Governments vexed by sharply rising health care costs plead competing priorities. Is it better to build a new railway line or subsidise the latest cancer drug? Should our taxes assist an 85-year-old grandmother to live a few weeks longer or her 5-year-old disabled grandson to get to school?

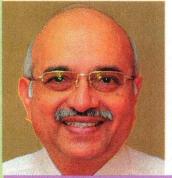
The truth is that these difficult questions will be answered neither by drug companies, doctors or governments but, ultimately, by the voice of our community. It is naive to expect that we will get by in the modern era of medicine by shutting our eyes to the dilemma. Each one of us will need to weigh the decision, balancing personal desire with societal good. If it sounds hard, it is. I wish I had an answer but I don't—however, discussing it is the next best thing.

I can tell you that each time I come up against the problem of "treating at every cost" I think about the true cost to society. But if these drugs were available when my beloved grandmother was dying of cancer, one look at her face would have tempted me to buy them for her.

What happened to my patient, you ask? The accountant that she was, she did the sums, laughed it off, kissed her family goodbye, and died peacefully in hospice four weeks later.







DR D. NARAYANA REDDY MBBS, PhD, FIC, FACS, ACST Sexologist, Chennai Send your comments to editor@the-week.com
Log in to www.the-week.com to post your queries

# **ASK EXPERT: SEXOLOGY**

### Raju: I have a thyroid condition and want to know if this will affect my sex life. Does it cause erectile dysfunction?

Theoretically speaking, it can lead to erectile dysfunction. However, since your thyroid gland is malfunctioning, we have to find out whether other endocrine (hormone) glands are also malfunctioning. Many hormonal imbalances can induce problems of erection.

Kumar: I an 60 and have been suffering from diabetes for over 20 years. For the past three years, I have had the problem of erectile dysfunction. I still get sexually aroused, and in my 30s I used to have sex three times a day. I want to be able to have a healthy erection.

As a personages, the pace of sexual response slows down. Hence, you cannot expect to be as agile now. Diabetes per se cannot cause erectile dysfunction. It is the complication (endothelial dysfunction resulting from inadequately managed diabetes) which is responsible. If it is so, it can be helped through the use of medicines which come under the genre of phosphodiesterase type 5 inhibitors. However, we must check for other causes, too. At times, a combination of diabetes and other conditions may be the culprit. In such cases, a comprehensive management strategy has to be adopted. Consult a sexologist

in person.

Vivek: I am a 21-year-old man and I am having an affair with a married woman. We started having sex after she gave birth to her second child. She got herself operated so she does not get pregnant anymore. She has unprotected sex with her husband and me. Will I get Aids?

Surgical method of birth control (tubectomy in women) gives protection only against unwanted pregnancy and not against sexually transmitted diseases. For this protection, you have to use a condom. If the woman's husband has HIV/ Aids, then your friend runs the risk of contracting it. And from her, you may also contract it.

Sharmila: My husband and I have been married for eight years and we have been trying to start a family for the past four years. I have been diagnosed with occult polycystic ovarian disease. I have regular menstruation, am not overweight and do not have other typical PCOD symptoms, but do have swollen ovaries. After two failed IVFs and a number of clomid treatments, I am now trying to make changes to my diet so I can get pregnant. Is it true that a person should avoid wheat if they suffer from PCOD?

You should be careful about your carbohydrate intake. Try to select low-glycemic-index food. These

include vegetables, beans, fruits, whole grain cereals and nuts. The low glycemic carbohydrates also tend to have more fibre. Space out the carbohydrate intake. This will result in the lower rise in blood sugar and insulin, as compared to eating all the carbohydrate allowance in one meal. Avoid carbohydrates that trigger more hunger cravings (like refined flour and sugary food). Drink at least eight glasses of fluids that do not contain caffeine. Limit the consumption of food containing saturated and trans fats (like fatty red meat, whole milk, butter, margarine, chicken skin, fried food, rich dessert and pastries). Monosaturated fats and omega 3 fats can be consumed. Regular physical exercise is a must. Dev: I am 29 and have a very thin penis. Is it advisable for me to take testosterone tablets? I have read that it is not healthy. What can I take to increase my sexual power?

The size of the penis has no bearing on 'sexual power'. It is the skill of the man in performing the sex act (including foreplay and after play) that counts. A good lover is a man who understands his woman's needs and feelings, so listen to your woman. You will automatically have all the sex power you want. Testosterone should be taken only when it is deficient in one's body. Consuming it without establishing its deficiency is fraught with health

risks.

# To do before I do

# Premarital checks help in ruling out conditions like phimosis

ani was heartbroken. On her *suhaag raat*, her husband, Ramu, could not perform. When they consulted a doctor, it was found that Ramu had phimosis, a birth defect, and he needed to be operated upon. "If it is a birth defect, how did he not know earlier? Did he hide this fact from her?" wondered Rani. While Rani's suspicions are understandable, Ramu himself was not aware of his condition till the doctor told him.

The foreskin consists of an

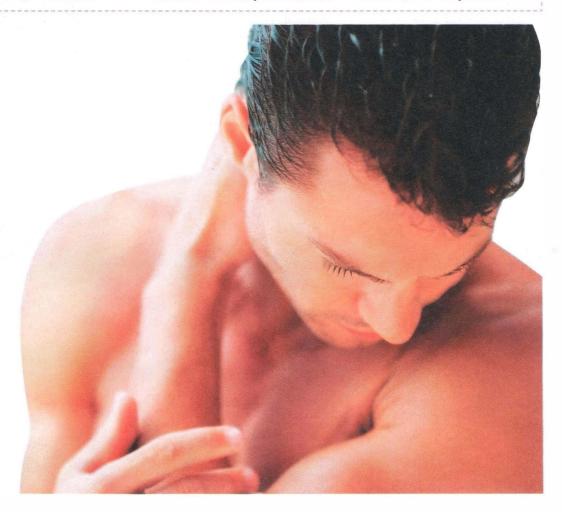
outer layer and an inner layer. A band of tissue called the frenulum holds the foreskin in place. The foreskin fits over the head of the penis like a glove. During intercourse, the frenulum slides back and forth.

In some individuals, owing to a birth anomaly or an infection, the foreskin and the frenulum cannot be fully retracted. This could cause a tear and pain and bleeding during intercourse.

The inability to pull back the foreskin is called phimosis. This

condition requires a minor surgery known as circumcision. Ideally, a man should be able to pull the foreskin back and expose the penis head, so that it can be washed. In some communities, circumcision is done on religious grounds, irrespective of whether a man has phimosis or not.

It is advisable that every man should get his genitals checked by a doctor before marriage. Ideally, every boy should be examined by the family/school/college doctor to rule out phimosis.





ogaMadeEas

By DR S.N. OMKAR

# FOR A HEALTHY SHOULDER

Coordinated motion of the shoulder blade (scapula), collar bone (clavicle), and the bones of the arm (humerus) are necessary for the healthy functioning of the shoulders. There are a host of muscles (including rotator cuff group) that make the shoulders the most mobile joint in the body. Its mobility, together with elbow motion, allows the positioning of the hand anywhere within the visual work space. Here is a simple posture that helps in keeping the shoulder complex healthy.

#### Method:

- 1. Sit upright with a chair to your right.
- 2. Sit aligned to the centre of the chair.
- 3. Raise your right arm and rest the wrist on top of the
- 4. Keep the right arm straight.
- 5. As you exhale, slowly bend, taking the head towards the right knee, and the left hand holding the knee.
- 6. Stay for about 30 seconds with slow, deep breathing.
- 7. Slowly come up and relax the right arm.
- 8. Repeat on the left side.

PHOTOS: BHANU PRAKASH CHANDRA MODEL: MANASA UPADHYA

